1995

Novel surimi: From sardine

Aquaculture Department, Southeast Asian Fisheries Development Center

Southeast Asian Fisheries Development Center, Aquaculture Department (1995). Novel surimi: From sardine. Aqua Farm News, 13(1), 7.

http://hdl.handle.net/10862/2453

From sardine

Novel surimi

Research is presently being undertaken to produce *surimi* from small pelagic species such as sardine, mackerel, herring etc. because of poor whitefish supplies and consequent price increase. Sardines have long been used in Japan to produce *surimi*-based products, in which whiteness is not a crucial factor.

A new processing technology (see box) developed by the National Research Institute of Fisheries Science of Japan opens up new vistas in the use of small pelagic species such as sardine in the production of quality *surimi.*

In comparison

Gel strength and fat content are the two basic criteria which determines *surimi* quality. However, for most products, in addition to the above quality criteria, raw material *surimi* has to be white in color, and should be free of any fish taste and odor. Sardine *surimi* made by the new process have a good gel strength and has a fat content less than 1%, satisfying two important quality criteria for *surimi.* However, it is darker in color than *surimi* made of white fleshed fish, recording 22% in the Hunter Whiteness scale. Even though sardine *surimi* is free of any odor, it exhibits a strong taste.

Patent

The new process differs from the traditional *surimi* process due to the fact that it allows the use of fish with red colored flesh and also the red meat of various species. Unlike the traditional process which requires 2-3 leaching cycles, the new process minimizes the leaching requirements needing only one cycle of leaching. In a consumer survey carried out in Japan, *kamaboko* made of sardine *surimi* kept for 6 months in frozen storage has been rated as comparable in odor and color to *kamaboko* made of fish species used traditionally. The new method is awaiting patent rights in Japan and USA.

Source: Fujio Nishioko, "Frozen *surimi* from sardine," **INFOFISH International**, January-February 1993.

FROZEN SURIMI PRODUCTION USING SARDINE

Frozen Raw Material-Sardine (-25°C)

↓

partial thawing (-5°C)

↓

heading/gutting & removal of backbone

↓

remove skin & bones using double step separator (5mm-2mm die)

↓

MINCED MEAT

↓

mix with 3 volumes of leaching water containing 0.2% sodium carbonate and 0.1% sodium pyrophosphate

↓

vacuum homogenize at 5mm Hg to remove crude fat

↓

clean filter

↓

dehydrate using decanter

↓

LEACHED MEAT

↓

leached meat mixed with additives (sugar, sorbital, sodium pyro/tripolyphosphates)

↓

shape

↓

freeze

↓

FROZEN SURIMI